

The Status in Britain of *Stigmella samiatella*  
(Zeller, 1839) and *S. svenssoni* (Johansson, 1971)  
(Lep., Nepticulidae)

By A. M. EMMET\*

In a recent paper on the British Nepticulidae (Emmet, 1974), I described how *Stigmella samiatella* came to be placed on the British List solely on the evidence of vacated mines determined by Professor Hering (Parmenter, 1952). I went on to say that the revision of the *atricapitella* group undertaken by continental entomologists and their discovery of several new species had invalidated Hering's conception of the mine-forms, so that there was now no evidence for the occurrence of *S. samiatella* in Britain; I added, however, that it was such a common species on the Continent that its discovery in Britain would not be surprising. In Kloet & Hincks (1972) its name is preceded by an asterisk, indicating that it is a species of doubtful British status. In my account of this species in *The Moths and Butterflies of Great Britain and Ireland* (Heath *et al.*, 1976) I told the same story, stating that although appearing on the British List it apparently did not occur in Britain; however, immediately below you will find a "Note added in press" to the effect that I had bred a specimen. The purpose of this paper is to record that event in greater detail and to announce the rearing of three other examples, one in 1900 and two in 1976.

My wife and I have travelled Britain extensively collecting records of the Nepticulidae for the distribution maps of M.B.G.B.I. Late November, 1975 found us in Wales and on the 19th we collected mines in fallen oak-leaves near Knighton, Radnorshire. From this material a male specimen of *S. samiatella* emerged on the 27th of April, 1975. Encouraged by this success, I renewed my search for this species in the collections at the British Museum (Natural History) and picked out from the Bankes collection a male bred from Danbury, Essex on the 1st of June, 1900. I persuaded a very sceptical Dr. J. D. Bradley to dissect the genitalia and to his surprise and my smug satisfaction it proved indeed to be *S. samiatella*.

On the 5th of August, 1975 my wife and I collected leaf-mines in the area of ancient woodland known as Bedford Purlieus; this is situated in the Soke of Peterborough, in the pre-1974 county of Rutland, in the present extended county of Leicestershire and for recording purposes within vice-county 32 (Northamptonshire). Early August falls between the larval generations of bivoltine Nepticulidae and, though mines were plentiful on the oaks, almost all were already vacated. Of special interest to us were mines evidently of *S. svenssoni* (Johansson); these were mostly empty like the others but assiduous searching produced ten which still contained larvae. These were reared separately from other mines of the *atricapitella* group and produced no adults till 1976, when six *svenssoni* emerged between the 17th of March and the 4th of April and

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two *S. samiatella* on the 1st and 6th of April. Dr. Borkowski (1972) states that the mines of *S. svenssoni* and *S. samiatella* are almost indistinguishable and this is confirmed by my experience, for of the ten mines, all pressed as soon as they were vacated, though I now know that at least six are *S. svenssoni* and at least two *S. samiatella*, I cannot tell which is which with any certainty.

The question arises of the number of generations in each of these species. Borkowski (*loc. cit.*) says that the larvae of *S. svenssoni* occur in September and also doubtfully in June. Mr. I. Svensson, in whose honour the species is named, told me when he visited England in 1971 that in his opinion it was univoltine. My own experience confirms this though it is likely that a few adults emerge in the late summer when conditions are suitable and give rise to a small autumnal generation. In Britain July appears to be the peak month for tenanted mines and from then onwards vacated mines far outnumber those still containing larvae; nevertheless, larvae may be found in diminishing numbers till September. A single November larva provides the sole evidence for the supposed second generation. The following table gives particulars of my rearings of *S. svenssoni* to date; the dates of emergence are of little significance since the pupae were forced. The entries are arranged in the chronological order of the collections of the mines.

Date of collection of mine	Locality	Number reared	Date of emergence
6 or 9.xi.68	Madingley, Cambs.	1	18.v.69
10.viii.72	Ambleside, Westmorland	1	31.iii.73
10.ix.72	Thorpeness, Suffolk	1	28.iv.73
6.viii.74	Blackrock, Brecons.	1	27.iii.75
16.vii.75	Pass of Leny, Perthshire	2	14-16.iii.76
27.vii.75	Yealand, North Lanes.	1	28.iv.76
28.vii.75	Derwentwater, Cumberland	2	25.iii-1.iv.76
5.viii.75	Bedford Purlieus, Northants.	6	17.iii-4.iv.76
5.viii.75	Groby, Leicestershire	1	27.iv.76
18.viii.75	Thorpeness, Suffolk	2	26.iv-7.v.76

*S. samiatella*, on the other hand, is bivoltine on the Continent (Borkowski, *loc. cit.*) but the slender evidence for its behaviour in Britain suggests the possibility that here it, too, is mainly univoltine. First, the date of the emergence of the

Date of collection of mine	Locality	Number reared	Date of emergence
—1899	Danbury, Essex	1	1.vi.00
19.xi.74	Knighton, Radnorshire	1	28.iv.75
5.viii.75	Bedford Purlieus, Northants.	2	1-6.iv.76

Danbury specimen is remarkably late if the species is bivoltine.

Secondly, with a bivoltine species larvae that are full-fed in early August, like those from Bedford Purlieus, should produce adults the same year. Thirdly, if *samiatella* is univoltine it is easier to explain why it was overlooked until 1975. The related species feeding on deciduous oak (*S. atricapitella* (Haworth), *S. ruficapitella* (Haworth), *S. roborella* (Johansson) and *S. basiguttella* (Heinemann)) all have a first generation of larvae feeding from mid-June until mid-August, according to the season, and producing adults about a fortnight after pupation. Suppose a collector had a mixed bag of mines which included the bivoltine and univoltine species; those that were bivoltine would emerge in August and when they ceased he might throw the rest of the material away, thinking that the other pupae had failed. So it came about that the two species were not bred until I reared one of each from November larvae, representatives of that supposedly rare second generation; each of these specimens was distinctly undersized, suggesting that their larvae had fed in conditions unsuitable to them. To obtain these species, therefore, the collector should keep his summer cocoons until the following spring, especially if they have emanated from the right kind of mine: that is, one with the egg laid beside a vein on the underside of the leaf, with the early gallery leading away from the vein at right-angles containing linear frass and with the late gallery broad and almost filled with frass that is well dispersed or arranged in arcs.

In my description of the adult of *S. svenssoni* (Heath et al., 1976, *loc. cit.*), I said it could not be distinguished with certainty from females of *S. ruficapitella* and both sexes of *S. roborella* without dissection of the genitalia. I now find that this is not normally necessary. *S. svenssoni* is a distinctly larger species and the scaling of the forewing is different in that the scales are very big with golden brown bases and deep purple-fuscous tips when seen from certain angles. Consequently the wings have a speckled appearance not found in the other species; this is visible even without a lens, especially in living specimens.

The black crown of the head, the yellow frons, the white collar and the absence of androconial scales on the hindwing suffice to make the males of *S. samiatella* easy to recognise. There is, however, some variation in the colour of the frons which in my original specimen is black like the crown. Unfortunately this moth suffered severe damage when the drawer in which it was stored was dropped by a careless batman. I have not yet seen a female but it is reported to be virtually undistinguishable from female *S. atricapitella*. Reference to the mine from which a moth was bred would make the determination simple. Either sex could be confused with those specimens of *S. basiguttella* in which the pale spot at the base of the forewing is obscure or obsolete; such specimens have frequently been misidentified in collections. *S. basiguttella* is, however, usually much smaller than *S. samiatella* and some trace of the pale spot is generally detectable. No one could confuse the mines.

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FURTHER RECORDS OF *HETEROGRAPHIS OBLITELLA* (ZELLER).

— Recent conversations with entomologists indicate that this moth has occurred, often in some numbers, throughout southern England during 1976. My Heath trap at Orpington has attracted 11 individuals this year, the earliest being 27.vii and the latest 9.ix. This comparative abundance coupled with the suggestion of S. E. Whitebread (*Ent. Rec.*, **87**: 190) that *oblitella* could have been breeding on the North Kent coast in recent years, prompted examination of my unidentified material from previous years. This produced one female (29.viii.74) and two males (viii.75). Although the records for this species are probably incomplete, the moth appears to have occurred in Orpington for at least three years. Other localities in N.W. Kent this year have included Dartford Heath, Petts Wood and Sidcup (several).

Further afield, no less than seven individuals of *oblitella* came to m.v. light on the cliffs at Durdle Door, near Lulworth, Dorset, on 26.viii.76. Perhaps a more surprising locality was for a single male taken in early August this year on the shingle beach at Llwyngwril, Merioneth. My thanks are due to Mr. J. Roche who first pointed out *oblitella* in my collection, and who kindly supplied records for Sidcup and Petts Wood. — P. A. SOKOLOFF, 4 Steep Close, Green St. Green, Orpington, Kent.

CONFIRMATION OF *HYDRAECIA OSSEOLA HUCHERARDI* MAB. AS A BREEDING SPECIES IN THE MEDWAY VALLEY. — I would like to add to the record of Mr. D. A. Saunders (*Ent. Rec.*, **87**: 303) of the capture of a specimen of *hucherardi*, near Rochester, Kent. Three specimens of this moth, two males and one female, visited an m.v. light I was operating on the banks of the Medway between Maidstone and Rochester on the night of 30th August, 1976. The night was a poor one for moths, with only 17 other species (all very common ones) being recorded up to 10 p.m. The foodplant, *Althaea officinalis* is common in the area where the moths were found. The specimen I kept for confirmation is identical in colour and markings with a specimen I bred from a pupa from Rye, Sussex. — P. J. JEWESS, 378 London Road, Aylesford, Kent.